IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Application of	Atty. Docket
WILHELMUS VERHAEGH	NL 020616
	Confirmation No. 6800
Serial No. 10/519,055	Group Art Unit: 2629
Filed: DECEMBER 22, 2004	Examiner: CARTER III, R.E.

Title: AUTOMATICALLY ADAPTABLE VIRTUAL KEYBOARD

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Board of Patent Appeals and Interferences
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

APPEAL BRIEF

Sir:

Appellant herewith respectfully presents a Brief on Appeal as follows, having filed a Notice of Appeal on February 17, 2009, where a Petition to Revive is concurrently filed herewith:

REAL PARTY IN INTEREST

The real party in interest in this appeal is the assignee of record Koninklijke Philips Electronics N.V., a corporation of The Netherlands having an office and a place of business at Groenewoudseweg 1, Eindhoven, Netherlands 5621 BA.

RELATED APPEALS AND INTERFERENCES

Appellant and the undersigned attorney are not aware of any other appeals or interferences which will directly affect or be directly affected by or having a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 3-6, 10-15 and 18-19 are pending in this application, where claims 1-2, 7-9 and 16-17 had been canceled. Claims 3-6, 10-15 and 18-19 are rejected in the Final Office Action mailed in November 17, 2008. This rejection was upheld, in the Advisory Action that was mailed on February 11, 2009. Claims 3-6, 10-15 and 18-19 are the subject of this appeal.

STATUS OF AMENDMENTS

Appellant filed on January 21, 2009 an after final amendment in response to a Final Office Action mailed November 17, 2008. The after final amendment did not include any amendments. In an Advisory Action mailed on February 11, 2009, it is indicated that the after final amendment filed on January 21, 2009 does not place the application in condition for allowance. This Appeal Brief is in response to the Final Office Action mailed November 17, 2008, that finally rejected claims 3-6, 10-15 and 18-19, which remain finally rejected in the Advisory Action mailed on February 11, 2009.

SUMMARY OF THE CLAIMED SUBJECT MATTER

The present invention, for example, as recited in independent claim 10 and shown in FIG 1, is directed to a data processing device 100 enabling a user to input characters. As shown in FIGs 1-2 and described on page 4, lines 7-24 of the specification, the data processing device 100 comprises a touch-sensitive member 200 arranged to function as a virtual keyboard. The touch-sensitive member 200 includes touch sensors 160 for detecting touched zones on the touch-sensitive member 200, where the touch sensors 160 sense a force of at least one finger 250 on the touch-sensitive member 200, as shown in FIGs 1-2 and described on page 6, line 29 to page 7, lines 1-11 of the specification. The data processing device 100 further includes a stroke recognition means, such as a microcontroller 110, shown in FIG 1 and described on page 7, lines 1-3, which recognizes a key stroke by analyzing a relative position of a zone touched by a finger 250 causing a higher force on the touch-sensitive member 200 relative to positions of zones concurrently touched by other fingers with a lower force, such that

the key stroke is determined by the relative position of the higher force touched zone relative to the lower force concurrently touched.

The present invention, for example, as recited in independent claim 11, is directed to data processing device 100 for enabling a user to input characters. As shown in FIGs 1-2 and described on page 4, lines 7-24 of the specification, the data processing device 100 comprises a touch-sensitive member 200 arranged to function as a virtual keyboard. The touch-sensitive member 200 includes sensors 160 for detecting touched zones on the member 200 and for sensing a force of at least one finger 250 on the touch-sensitive member 200. As shown in FIGs 1-2 and described on page 6, line 29 to page 7, lines 1-11 of the specification, the sensors 160 are configured to identify a finger 250 causing a force on the touch-sensitive member zone that is higher than a force from other fingers when more than one finger touches said member. The touch-sensitive member 200 includes a key allocation means, such as the microcontroller 110 shown in FIG 1 and described on page 4, lines 28-30, for allocating at least two reference keys of the virtual

keyboard to respective zones on said member in response to said detection of touched zones; and a key stroke recognition means, such as the microcontroller 110 shown in FIG 1 and described on page 7, lines 1-3, which configured to recognize a key stroke by analyzing a relative position of the zone touched with a higher force with respect to a position of at least one other zone concurrently touched with a lower force.

The present invention, for example, as recited in independent claim 18, is directed to a method enabling a user to input characters. As shown in FIG 4 and described on page 8, lines 20-25, the method comprises a step of detecting 410 touched zones on a touch-sensitive member configured to function as a virtual keyboard, a step of allocating 420 at least two reference keys of the virtual keyboard to respective zones on said member in response to said detection of touched zones, and a step of sensing a force of at least one finger on a touched zone of the touch-sensitive member, as shown in FIGs 1-2 and described on page 6, line 29 to page 7, lines 1-11.

As shown in FIG 4 and described on page 8, lines 25-33, the

method further comprises a step of identifying 430 a finger causing a force on the touched zone of the touch-sensitive member higher than a force caused by other fingers on the touched zone when more than one finger touches said member, and a step of recognizing 440 a key stroke by analyzing a relative position of the zone touched with the higher force with respect to a position of at least one other zone concurrently touched with a lower force.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Whether claims 3-6, 10-12, 15 and 18-19 of U.S. Patent Application Serial No. 10/519,055 are unpatentable under 35 U.S.C. §103(a) over JP 09-330175 (Hatakeyama) in view of U.S. Patent No. 7,042,442 (Kanvesky).

Whether claims 13-14 of U.S. Patent Application Serial No. 10/519,055 are unpatentable under 35 U.S.C. §103(a) over Kanvesky and an article entitled "Soft Adaptive Follow-Finger Keyboard for Touch-Screen Pads" (Gantenbein).

ARGUMENT

Claims 3-6, 10-12, 15 and 18-19 are said to be unpatentable over Hatakeyama in view of Kanvesky.

Appellant respectfully requests the Board to address the patentability of independent claims 10-11 and 18, as well as the patentability of dependent claim 13, and further claims 3-6, 12, 14-15 and 19 as depending from claims 10-11 and 18, based on the requirements of independent claims 10-11 and 18. This position is provided for the specific and stated purpose of simplifying the current issues on appeal. However, Appellant herein specifically reserves the right to argue and address the patentability of claims 3-6, 12, 14-15 and 19 at a later date should the separately patentable subject matter of 3-6, 12, 14-15 and 19 later become an issue. Accordingly, this limitation of the subject matter presented for appeal herein, specifically limited to discussions of the patentability of claims 10-11, 13 and 18 is not intended as a waiver of Appellant's right to argue the patentability of the further claims and claim elements at that later time.

As correctly noted on page 3 of the Final Office Action, Hatakeyama does not disclose or suggest "a stroke recognition means which recognizes a key stroke by analyzing a relative position of a zone touched by a finger causing a higher force on the touch-sensitive member relative to positions of zones concurrently touched by other fingers with a lower force, such that the key stroke is determined by the relative position of the higher force touched zone relative to the lower force concurrently touched," as recited in independent claim 10, and similarly recited in independent claims 11 and 18. Column 6, lines 17-44 of Kanvesky is cited in an attempt to remedy the deficiencies in Hatakeyama.

Kanvesky is directed to a virtual invisible keyboard where a recognition system of gestures maps sequences of gestures to keys strings. Column 6, lines 17-44 merely discloses that a camera 700 detects pictures of the user hands and a keyboard mapper module 702 scales the keyboard to fit it to hand positions 705.

It is respectfully submitted that the disclosure in column 6, lines 17-44 of Kanvesky has nothing to do with anything touched by any force, let alone concurrently touching different zones by

different fingers with different forces.

It is respectfully submitted that the Hatakeyama and Kanvesky, alone or in combination, do not teach or suggest the present invention as recited in independent claim 10, and similarly recited in independent claims 11 and 18, which, amongst other patentable elements, recites (illustrative emphasis provided):

> a stroke recognition means which recognizes a key stroke by analyzing a relative position of a zone **touched** by a finger causing a **higher force** on the touch-sensitive member relative to positions of zones **concurrently touched** by other fingers with a **lower force**, such that the key stroke is determined by the relative position of the higher force touched zone relative to the lower force concurrently touched.

Recognizing a key stroke by analyzing a relative position of a zone touched by a finger causing a higher force on the touch-sensitive member relative to positions of zones concurrently touched by other fingers with a lower force, is features are nowhere disclosed or suggested in Hatakeyama, Kanvesky, and combination thereof. Rather, Kanvesky merely discloses scales the keyboard to fit it to hand positions based on analyzing pictures of the hand detected by a camera 700.

Even, assuming arguendo, that Kanvesky discloses continuously monitoring a virtual keyboard and updating the relationships among the keyboard keys, as alleged in the Advisory Action, any such continuously monitoring and updating is performed using cameras. 'Previously touched' keys that become 'concurrently touched' by virtue of the disclosure in Kanvesky of 'continuously monitoring,' as alleged in the Advisory Action, still does not remedy the deficiencies Hatakeyama, where the combination of Hatakeyama and Kanvesky still does not disclose or suggest recognizing a key stroke by analyzing relative positions of zones concurrently touched with different (e.g., higher and lower) forces, as recited in independent claims 10-11 and 18. Gantenbein is cited to allegedly show other features and does not remedy the deficiencies in Hatakeyama and Kanvesky.

Accordingly, it is respectfully requested that independent claims 10-11 and 18 should be allowed. In addition, it is respectfully submitted that claims 3-6, 12, 15 and 19 should also be allowed at least based on its dependence from independent claims 10-11 and 18.

Claims 13-14 are said to be unpatentable over Kanvesky in view of Gantenbein.

It is respectfully submitted that claims 13-14 should be allowed at least based on its dependence from independent claim 11.

Further, as correctly noted on page 11 of the Final Office Action, Kanvesky does not disclose or suggest "a key correction means for correcting a location of at least one of the reference keys by repeatedly allocating at least one of the reference keys," as recited in claim 13. Gantenbein is cited in an attempt to remedy the deficiencies in Kanvesky.

Gantenbein is directed to a soft adaptive follow-finger keyboard for touch-screen pads, where the software-emulated keyboard adapts to the characteristics of a particular operator's hands, such as by automatically adjusting and following to the overall handprint. Although Gantenbein discloses automatic following of the user's fingers/hands, doing so by "repeatedly allocating at least one of the reference keys," as recited in claim 13 is nowhere disclosed or suggested in Gantenbein. Gantenbein is

silent about any reference keys, let alone correcting the location of at least one of the reference keys by repeatedly allocating at least one of the reference keys, as recited in claim 13.

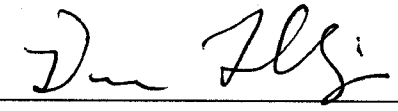
In addition, Appellant denies any statement, position or averment of the Examiner that is not specifically addressed by the foregoing argument and response. Any rejections and/or points of argument not addressed would appear to be moot in view of the presented remarks. However, the Appellant reserves the right to submit further arguments in support of the above stated position, should that become necessary. No arguments are waived and none of the Examiner's statements are conceded.

CONCLUSION

Claims 3-6, 10-15 and 18-19 are patentable over Hatakeyama, Kanvesky and Gantenbein.

Thus, the Examiner's rejections of claims 3-6, 10-15 and 18-19 should be reversed.

Respectfully submitted,

By 
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CLAIMS APPENDIX

Claims 1-2 (Canceled)

3.(Previously Presented) The device of claim 11, wherein the at least one of the touch sensors is further arranged to determine a parameter of a respective one of the touched zones, said key allocation means being arranged to allocate the reference keys having a size and/or form on said touch-sensitive member depending on said parameter of the respective detected zone.

4.(Previously Presented) The device of claim 11, wherein said key allocation means is arranged to allocate said other keys having a size and orientation on said touch-sensitive member depending on relative locations of the detected touched sensitive zones.

5.(Previously Presented) The device of claim 11, wherein said

key allocation means is arranged to allocate four or eight reference keys upon detecting four fingers of the user's left hand and/or four fingers of the user's right hand touching the touch-sensitive member.

6.(Previously Presented) The device of claim 10, wherein said virtual keyboard has a QWERTY-type layout.

Claims 7-9 (Canceled)

10.(Previously Presented) A data processing device enabling a user to input characters, the device comprising:

a touch-sensitive member arranged to function as a virtual keyboard, said member including touch sensors for detecting a plurality of touched zones on said member, the touch sensors sensing a force of at least one finger on the touch-sensitive member;

a stroke recognition means which recognizes a key stroke by analyzing a relative position of a zone touched by a finger causing

a higher force on the touch-sensitive member relative to positions of zones concurrently touched by other fingers with a lower force, such that the key stroke is determined by the relative position of the higher force touched zone relative to the lower force concurrently touched.

11. (Previously Presented) A data processing device for enabling a user to input characters, the device comprising:

a touch-sensitive member arranged to function as a virtual keyboard, said member including sensors for detecting touched zones on said member and for sensing a force of at least one finger on the touch-sensitive member, the sensors being configured to identify a finger causing a force on the touch-sensitive member zone that is higher than a force from other fingers when more than one finger touches said member;

a key allocation means for allocating at least two reference keys of the virtual keyboard to respective zones on said member in response to said detection of touched zones; and

a key stroke recognition means configured to recognize a key

stroke by analyzing a relative position of the zone touched with a higher force with respect to a position of at least one other zone concurrently touched with a lower force.

12. (Previously Presented) The device of claim 11, wherein said at least one zone touched with the lower force corresponds to at least one of said reference keys.

13. (Previously Presented) The device of claim 11, further comprising:

a key correction means for correcting a location of at least one of the reference keys by repeatedly allocating at least one of the reference keys.

14. (Previously Presented) The device of claim 13, wherein said key correction means functions upon detecting a change of position of at least one of said other fingers.

15. (Previously Presented) The device of claim 11, wherein

said touch-sensitive member further comprises:

a display means arranged to display a representation of at least one reference key and/or other key of the virtual keyboard.

Claims 16-17 (Canceled)

18. (Previously Presented) A method enabling a user to input characters, the method comprising:

a step of detecting touched zones on a touch-sensitive member configured to function as a virtual keyboard, and

a step of allocating at least two reference keys of the virtual keyboard to respective zones on said member in response to said detection of touched zones, and,

a step of sensing a force of at least one finger on a touched zone of the touch-sensitive member,

a step of identifying a finger causing a force on the touched zone of the touch-sensitive member higher than a force caused by other fingers on the touched zone when more than one finger touches said member, and

a step of recognizing a key stroke by analyzing a relative position of the zone touched with the higher force with respect to a position of at least one other zone concurrently touched with a lower force.

19. (Previously Presented) A computer-readable medium with instructions that are executed on a computer, to perform the method as defined in claim 18.

EVIDENCE APPENDIX

None

RELATED PROCEEDINGS APPENDIX

None